

Table of Contents

	<u>Page</u>
Executive Summary.....	ES-1 to ES-9
Chapter 1: Purpose and Need	
1.1 Need for Action.....	1-1
1.2 Purposes of Taking Action.....	1-1
1.3 Decisions to be Made and Responsible Officials	1-2
1.4 Background.....	1-2
1.4.1 Regional Perspective	1-2
1.4.2 Grande Ronde – Imnaha Spring Chinook Management Perspective	1-3
1.5 Public Scoping and Key Issues.....	1-6
1.6 Issues Beyond the Scope of this EIS.....	1-7
1.7 Relationship to Other Fish Projects and Programs in the Vicinity	1-7
Chapter 2: Proposed Action and Other Alternatives	
2.1 Proposed Action.....	2-1
2.1.1 Grande Ronde Facilities	2-3
2.1.2 Imnaha Facilities	2-11
2.2 No Action Alternative.....	2-17
2.3 Alternatives Eliminated from Detailed Study	2-17
2.3.1 Modify Lookingglass Hatchery and Use, Add or Modify No Other Facilities	2-17
2.3.2 Use or Modify Existing Facilities Elsewhere in the Columbia Basin to Assist with Lookingglass Hatchery Production.....	2-18
2.3.3 Put New Facilities at Other Sites in Northeast Oregon to Assist Lookingglass Hatchery Production	2-18
2.4 Comparison of Alternatives	2-18
Chapter 3: Affected Environment and Environmental Consequences	
3.1 Introduction.....	3-1
3.2 Fish	3-2
3.2.1 Affected Environment	3-2
3.2.2 Impacts Evaluation Summary	3-12
3.2.3 Consequences of the Proposed Action	3-13
3.2.4 Cumulative Impacts	3-40
3.2.5 Consequences of Taking No Action.....	3-41
3.3 Wildlife	3-43
3.3.1 Affected Environment.....	3-43
3.3.2 Evaluation Criteria	3-51
3.3.3 Consequences of the Proposed Action	3-51
3.3.4 Cumulative Impacts	3-54
3.3.5 Consequences of Taking No Action.....	3-54
3.4 Plants and Wetlands	3-54
3.4.1 Affected Environment	3-54
3.4.2 Evaluation Criteria	3-61
3.4.3 Consequences of the Proposed Action	3-61
3.4.4 Cumulative Impacts	3-63
3.4.5 Consequences of Taking No Action.....	3-63

	<u>Page</u>
3.5 Geology, Geologic Hazards and Soils.....	3-63
3.5.1 Affected Environment	3-63
3.5.2 Evaluation Criteria.....	3-65
3.5.3 Consequences of the Proposed Action.....	3-65
3.5.4 Cumulative Impacts	3-68
3.5.5 Consequences of Taking No Action	3-68
3.6 Hydrology, Floodplains and Water Quality	3-68
3.6.1 Affected Environment	3-68
3.6.2 Evaluation Criteria.....	3-73
3.6.3 Consequences of the Proposed Action.....	3-73
3.6.4 Cumulative Impacts	3-77
3.6.5 Consequences of Taking No Action	3-77
3.7 Wild and Scenic Rivers	3-77
3.7.1 Affected Environment	3-77
3.7.2 Evaluation Criteria	3-79
3.7.3 Consequences of the Proposed Action.....	3-80
3.7.4 Cumulative Impacts	3-85
3.7.5 Consequences of Taking No Action	3-85
3.8 Cultural Resources	3-86
3.8.1 Affected Environment	3-86
3.8.2 Evaluation Criteria.....	3-87
3.8.3 Consequences of the Proposed Action.....	3-87
3.8.4 Cumulative Impacts	3-88
3.8.5 Consequences of Taking No Action	3-89
3.9 Aesthetics (Visual Quality).....	3-89
3.9.1 Affected Environment	3-89
3.9.2 Evaluation Criteria.....	3-98
3.9.3 Consequences of the Proposed Action.....	3-99
3.9.4 Cumulative Impacts	3-107
3.9.5 Consequences of Taking No Action	3-107
3.10 Land Use, Recreation and Transportation	3-107
3.10.1 Affected Environment	3-107
3.10.2 Evaluation Criteria.....	3-110
3.10.3 Consequences of the Proposed Action.....	3-111
3.10.4 Cumulative Impacts	3-113
3.10.5 Consequences of Taking No Action	3-113
3.11 Socioeconomics.....	3-113
3.11.1 Affected Environment	3-113
3.11.2 Evaluation Criteria.....	3-115
3.11.3 Consequences of the Proposed Action.....	3-115
3.11.4 Cumulative Impacts	3-116
3.11.5 Consequences of Taking No Action	3-116
3.12 Air Quality	3-116
3.12.1 Affected Environment	3-116
3.12.2 Evaluation Criteria.....	3-118
3.12.3 Consequences of the Proposed Action.....	3-119
3.12.4 Cumulative Impacts	3-119
3.12.5 Consequences of Taking No Action	3-119
3.13 Noise	3-119
3.13.1 Affected Environment	3-119
3.13.2 Evaluation Criteria.....	3-120

	<u>Page</u>
3.13.3 Consequences of the Proposed Action	3-120
3.13.4 Cumulative Impacts	3-121
3.13.5 Consequences of Taking No Action.....	3-121
3.14 Public Health and Safety	3-121
3.14.1 Affected Environment.....	3-121
3.14.2 Evaluation Criteria	3-121
3.14.3 Consequences of the Proposed Action	3-121
3.14.4 Cumulative Impacts	3-122
3.14.5 Consequences of Taking No Action.....	3-122
3.15 Short-Term Use of the Environment and the Maintenance and Enhancement of Long-Term Productivity.....	3-122
3.16 Irreversible and Irretrievable Commitment of Resources	3-122
3.17 Adverse Effects That Cannot Be Avoided	3-123

Chapter 4: Consultation and Coordination

4.1 National Environmental Policy Act	4-1
4.2 Wildlife and Habitat.....	4-1
4.2.1 Federal Endangered Species Act.....	4-1
4.2.2 Oregon Endangered Species Rules	4-1
4.2.3 Fish and Wildlife Conservation.....	4-1
4.3 Wild and Scenic Rivers	4-2
4.4 Heritage Preservation and Native American Values	4-2
4.5 Floodplain/Wetlands Assessment.....	4-3
4.5.1 Resource Description	4-3
4.5.2 Floodplain/Wetlands Effects	4-3
4.5.3 Alternatives	4-4
4.5.4 Mitigation	4-4
4.6 Wallowa-Whitman National Forest Plans.....	4-4
4.7 Other Consultation and Compliance Requirements	4-4
4.7.1 State, Areawide and Local Plans and Approval	4-4
4.7.2 Clean Water Act.....	4-5
4.7.3 Farmland Protection Policy Act	4-5
4.7.4 Noise Control Act	4-5
4.7.5 Clean Air Act	4-5
4.7.6 Resource Conservation and Recovery Act (RCRA), Toxic Substances Control Act (TSCA) and Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)	4-5
4.7.7 Environmental Justice	4-6

Chapter 5: List of Preparers and Reviewers 5-1 to 5-3

Chapter 6: Glossary 6-1 to 6-7

Chapter 7: Bibliography 7-1 to 7-10

Appendix A: List of Agencies, Organizations, and Persons Contacted

.....A-1 to A-3

Index

List of Tables

Table ES-1	Summary of Environmental Consequences of Alternatives	ES-5 to ES-9
Table 1-1	Other Projects and Programs in the Vicinity	1-8
Table 1-2	Relationship to Relevant Laws, Plans, Treaties and other Guidance	1-10
Table 2-1	Sites Investigated.....	2-19
Table 2-2	Comparison of Proposed Action and No Action Alternative to the Stated Purposes for Taking Action	2-20
Table 2-3	Comparison of Facilities Associated with Proposed Action and No Action Alternative	2-21
Table 2-4	Summary of Environmental Consequences of Alternatives	2-22
Table 3.2-1	Fish Species Currently Occurring within Grande Ronde Subbasin.....	3-2
Table 3.2-2	Number of Spring Chinook Salmon Redds Observed in the Grande Ronde River and Tributaries, 1998-2002.....	3-4
Table 3.2-3	Lostine Spring/Summer Chinook Redd Counts from Various Survey Years.....	3-8
Table 3.2-4	Fish Species Currently Occurring in the Imnaha River Subbasin	3-9
Table 3.2-5	Estimate of Total Spring Chinook Salmon Redds in the Imnaha River Subbasin, 1964-1995; 1996-2002	3-10
Table 3.2-6	Summary Results of Impacts for NEOH Program Proposed Action Components within the Grande Ronde Subbasin, including Lookingglass Hatchery, the Lostine Adult Collection Facility, and the Lostine River Hatchery.....	3-13
Table 3.2-7	Lostine River Hatchery Conventional Broodstock Program for Lostine and Imnaha River Stocks (Operated Year-Round)	3-20
Table 3.2-8	Surface Water Minimum Flow Strategy, Acceptable and Preferred Flow Index, and Mean Monthly Streamflow (cfs) for the Lostine River Hatchery.....	3-23
Table 3.2-9	Summary Results of Impacts for NEOH Program Proposed Action Components within the Imnaha Subbasin, including the Imnaha Final Rearing Facility and the Imnaha Satellite Facility	3-26
Table 3.2-10	Proposed Imnaha Final Rearing Facility Broodstock Program (Operated September – March)	3-29
Table 3.2-11	Surface Water Acceptable and Preferred Rearing Scenario Requirements, Imnaha River Gauge Flows and Adjusted Imnaha River Mean Monthly Streamflow at the Imnaha Final Rearing Facility (cfs).....	3-31
Table 3.2-12	Imnaha Satellite Facility, Existing and Proposed Programs for Conventional Broodstock (Operated March – November)	3-34
Table 3.2-13	Maximum Surface Water Requirements and Mean Monthly Stream Gage Glow for the Imnaha Satellite Facility (cfs)	3-37

	<u>Page</u>
Table 3.2-14 Sliding Scale Developed for Allocation of Imnaha River Spring/Summer Chinook Salmon Collected at the Imnaha Satellite Facility to Natural Spawning or Hatchery Production	3-39
Table 3.2-15 NPT and ODFW Harvest Management Guidelines	3-41
Table 3.3-1 Federally or State Listed Species Known or Suspected of Occurring in the Grande Ronde Subbasin.....	3-45
Table 3.3-2 Federally or State Listed Species Known or Suspected of Occurring in the Imnaha Subbasin	3-48
Table 3.4-1 Federally Listed Plant Species and Species of Concern in the Grande Ronde and Imnaha Subbasins, Wallowa and Union Counties, Oregon.....	3-55
Table 3.7-1 Effects of the Proposed Action on ORV's of the Imnaha Wild & Scenic River.....	3-81
Table 3.11.1 General Population of Wallowa and Union Counties 1980 – 2001	3-114
Table 3.11-2 Unemployment Rates in the Area of Potential Effect for the Proposed Action, 2001 – 2002.....	3-114
Table 3.12-1 National Ambient Air Quality Standards	3-118
Table 4.7-1 Permits and Approvals Required for Site Development	4-7

List of Figures

Figure ES-1 Grande Ronde and Imnaha Spring Chinook Project	ES-4
Figure 1-1 Existing and Proposed Hatchery Facilities.....	1-4
Figure 2-1 Grande Ronde and Imnaha Spring Chinook Project	2-2
Figure 2-2 Lookingglass Hatchery Overall Site Plan	2-4
Figure 2-3 Lostine River Adult Collection Facility Velocity Barrier, Fish Ladder, and Trap Facility	2-6
Figure 2-4 Lostine River Hatchery Site Plan	2-8
Figure 2-5 Lostine River Hatchery Intake Site Plan	2-9
Figure 2-6 Imnaha Final Rearing Facility Site Plan	2-12
Figure 2-7 Imnaha Final Rearing Facility Bridge Relocation Plan and Sections	2-14
Figure 2-8 Imnaha Satellite Facility Site Plan	2-16
Figure 3.4-1 Lostine River Adult Collection Facility, Approximate Wetland Location	3-58
Figure 3.4-2 Lostine River Hatchery, Approximate Wetland Location	3-59
Figure 3.9-1 Lookingglass Hatchery Site Photographs	3-91
Figure 3.9-2 Lostine Adult Collection Facility Site Photographs.....	3-92
Figure 3.9-3 Lostine River Hatchery Site Photographs	3-93
Figure 3.9-4 Imnaha Final Rearing Facility Site Photographs.....	3-95
Figure 3.9-5 Imnaha Satellite Facility Site Photographs	3-96
Figure 3.9-6 Lostine Adult Collection Facility (Visual Simulation)	3-100
Figure 3.9-7 Lostine River Hatchery (Visual Simulation).....	3-101
Figure 3.9-8 Lostine River Hatchery (Visual Simulation).....	3-102
Figure 3.9-9 Imnaha Final Rearing Facility (Visual Simulation)	3-103
Figure 3.9-10 Imnaha Satellite Facility (Visual Simulation).....	3-104